

ABSTRACT

A stabilizer especially adapted for use with an drill string having an eccentric drilling element, such as a bi-center bit. The stabilizer has a pair of circumferentially displaced blades that lie in a common circumferential plane and extend from a rotatable sleeve supported on the stabilizer body, as well as a stationary blade. The rotating blades are aligned with the stationary blade when in a first circumferential orientation and are disposed so that the mid-point between the rotating blades is located opposite the stationary blade, thereby providing full-gauge stabilization, when the rotating blades are in a second circumferential orientation. A magnetic systems senses the circumferential orientation of the rotating blades and transmits the information to the surface via mud pulse telemetry. A piston actuated by the drilling mud locks the rotating blades into the active and inactive positions. A brake shoe located on the distal end of each rotating blade provides contact with the walls of the bore hole and serves as a support pad for a formation sensor.